



CITY OF
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Incorporation of a Renewable Energy Requirement into Hayward's Green Building Ordinance



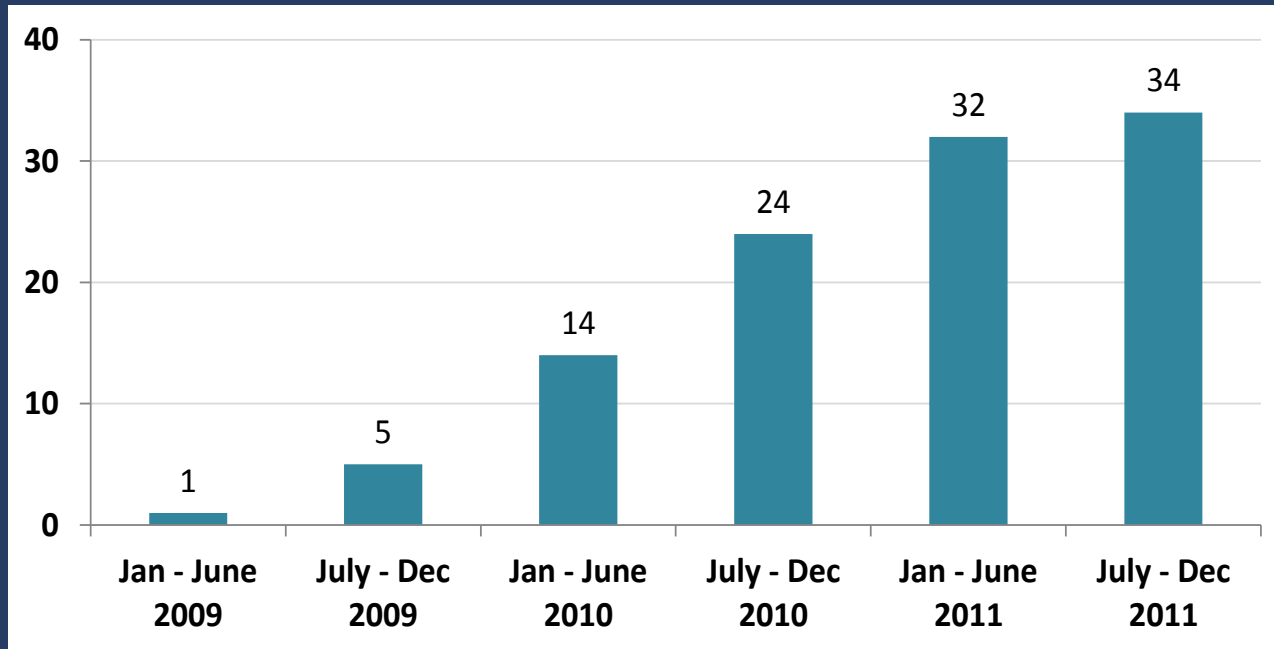
Action 5.3 of Hayward's Climate Action Plan

- “Incorporate a renewable energy requirement into the Private Development Green Building Ordinance and the Residential and Commercial Energy Conservation Ordinances.”
- The recommended timing to begin this Action is FY 2013

Strategy and Action		2009	2010	2011	2012	2013	2014	2015
Strategy 5 – Energy: Use Renewable Energy								
Action 5.1	offer renewable energy financing program for residential buildings				Phase 1			
Action 5.2	offer renewable energy financing program for commercial buildings				Phase 1			
→ Action 5.3	add renewable energy requirement into private development green building ordinance, RECO, and CECO							
Action 5.4	increase portion of electricity provided by renewable energy							



Hayward's Current Activities to Promote Renewable Generation: Permit Subsidy



- 115 permits for PV systems have been issued since 2009
- The City subsidy ranges from \$340 to \$450 for each permit, which equates to \$39,100 to \$51,750 in subsidies since 2009



Hayward's Current Activities to Promote Renewable Generation: Green Building Requirements

	Activity	Requirement	Renewable Energy Component
Residential	New multi or single family unit(s)	Documentation demonstrating that the building has been GreenPoint Rated	25 of the 50 points needed for certification can come from onsite renewable generation
	Additions or remodels over 500 square feet	Complete the GreenPoint checklist	Checklist includes onsite renewable generation
Commercial	New construction over 1,000 square feet	Exceed the 2008 Building Energy Efficiency Standards of the CA Building Code (Title 24, Part 6) by at least 15% using the performance method	None
	Tenant improvement projects over 1,000 sf where at least half of the light fixtures are new or replaced	<ol style="list-style-type: none"> 1. Exceed the lighting load requirements of the 2008 Title 24, Part 6 by 15%, <u>or</u> 2. Include at least 1% or 1kw (whichever is greater) of the electrical power from a renewable source, <u>or</u> 3. Exceed Title 24, Part 6 by at least 5% using the performance method 	



State Goals for Renewable Energy in New Buildings

Incentive Programs:

- California Energy Commission's (CEC) New Solar Homes Partnership
- California Public Utilities Commission's (CPUC) California Solar Initiative



Building Code:

- In 2007, the CEC recommended incrementally adjusting Title 24 to require Zero Net Energy performance in new residential buildings by 2020 and new commercial buildings by 2030
- In 2008, the CPUC released a *Long Term Energy Efficiency Strategic Plan* that outlines the same ZNE goals as the CEC

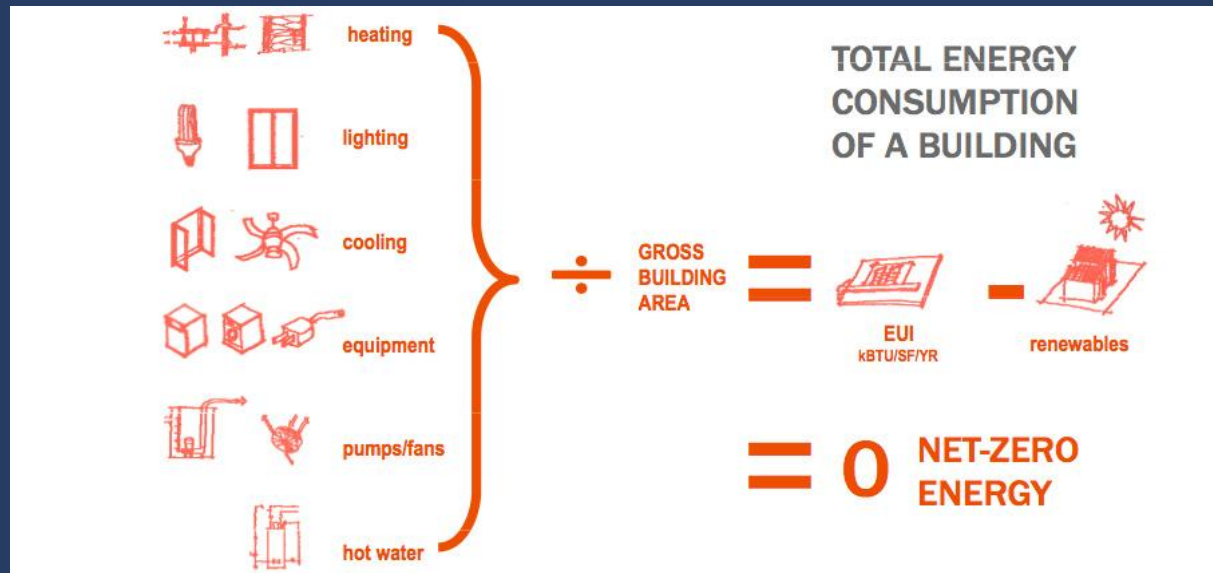


Zero Net Energy and Grid Neutral

- Buildings combine active features (renewable energy production) and passive features (energy efficiency) with the goal of producing at least as much energy as the building consumes

Benefits of using these concepts:

- The focus is on the overall performance of the building
- Flexibility to use the most cost-efficient technologies



Grid Neutral instead of Zero Net Energy

- Zero Net Energy often attempts to take into account a building's use of natural gas
- Grid neutral is often limited to the electrical grid
- CALGreen defines grid neutral as: “A site that produces at least as much electricity as it uses in a year”

Benefits of using Grid Neutral:

- Clearly defined by CALGreen
- There are known examples of such buildings in the region



Possible Amendment to the Green Building Ordinance: Residential Subdivision Projects

- Require all new subdivisions encompassing twenty units or more to build five percent of units (one in twenty) to be grid neutral, as defined by CALGreen

Fiscal and Market Impact:

- Solar PV systems can add between \$15,000 to \$20,000 to the cost of a detached residential home
- A cost-effectiveness study would need to be completed for the CEC



Possible Amendment to the Green Building Ordinance: Commercial Projects

- Allow new commercial construction to use renewable generation to meet the City's Green Building Ordinance requirement, as an alternative option to the existing requirement

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Possible Amendment to the Green Building Ordinance: Solar Ready for All Projects



- Be an early adopter of the 2013 “Solar Ready” provision of Title 24
- Solar Ready:
 - Provide sufficient roof space and electrical capacity
 - Document pathways for routing conduit and plumbing



Fiscal and Market Impact:

- The California Utilities Statewide Codes and Standards Team estimated the added construction cost to be \$182 per unit



Other Possible Activities

- Revise the “Solar Access” section of Hayward’s Design Guidelines
- Set standards to facilitate the development of small wind energy systems
- Incorporate awards for outstanding renewable energy projects into Hayward’s Annual Environmental Achievement Awards

Fiscal and Market Impact

- Creating standards for small wind energy systems in Hayward would require potentially significant time from City planning and building staff



Possible Next Steps

Ordinance Amendments

1. Seek input from developers about a grid-neutral requirement for subdivisions and follow up with PG&E about completing a cost-effectiveness study
2. Draft a renewable energy option for new commercial construction to meet the City's Green Building Ordinance requirement
3. Seek input from developers about a solar ready requirement

Other Activities

4. Revise the Solar Access section of Hayward's Design Guidelines
5. Develop guidelines for small wind systems
6. Launch awards for outstanding renewable energy projects



California Building Standards Code (Title 24)

- Updated every three years (2007, 2010, 2013)
- 2010 update included new mandatory Green Building Code, “CALGreen.”
CALGreen includes voluntary Tiers 1 & 2, the State’s version of a green building certification system

